

ROCKY MOUNTAIN

The Environmental Protection Agency (EPA) has initiated a new program to help prevent pollution from occurring in large geographic areas. A twist on the earlier agency focus of cleaning up polluted sites, the new program emphasizes prevention and is geared to foster healthy habitats and encourage ecosystem management. The new program led EPA staff in Denver to explore new ways of doing business with its partners on the Colorado Plateau.

More than a year ago, the Denver EPA office, which was working in national parks teaching pollution prevention techniques, suggested that we take a broader approach on the Colorado Plateau. Subsequently, the NPS Rocky Mountain Region and EPA Region 8 negotiated an interagency agreement that encour-

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ages a broader approach for defining and managing healthy, sustainable ecosystems. We signed the Colorado Plateau Ecosystem Partnership Project agreement in August 1994.

Plateau residents are concerned about socioeconomic changes occurring in their neighborhoods. Newcomers seeking alternative lifestyles have shifted demographic trends, and basic economic activities have shifted to service the increasing number of tourists and recreationists. The growth of small plateau communities has placed demands on the ecosystem that may alter its health. Ironically, the exquisite landscape may be harmed by the very people who have come to enjoy it.

Recently joining the NPS-EPA effort are the NBS Midcontinent Ecological Science Center in Fort Collins, Colorado, and the NBS Field Research Station in Flagstaff, Arizona. Both organizations bring special expertise in helping to understand the dynamics of the Colorado Plateau. As part of the partnership, they will provide a clearinghouse function on existing data and conduct original research.

The Flagstaff personnel will help establish a framework to gather and disseminate data and information of use to all plateau researchers, residents, and managers. The clearinghouse function is needed because several plateau studies and inventories are underway simultaneously, often with groups unaware of near-duplicate efforts. Transferring data and sharing research findings is also an important component of the project. Staff will contact federal agency researchers and land managers, researchers in the academic

community, tribes, communities, and individuals with plateau knowledge or project interest.

The staff in Fort Collins will gather information and develop models to help understand changing demographics, political culture, institutional frameworks, and economics. Understanding how we interact and make decisions is critical in finding the best means to sustain an ecosystem and the local social and economic environment.

A third effort is underway toward that understanding. The Colorado Plateau Forum is a gestating effort to locate a nongovernmental or special interest voice to represent the whole Colorado Plateau. The forum was initiated by the Western Area Power Authority and quickly joined by representatives of the Grand Canyon Trust, Bureau of Land Management, U.S. Forest Service, tribes, local communities and governments, Northern Arizona University, the National Park Service, and the Environmental Protection Agency.

The organization held a town hall meeting, endorsed and partially supported by the Colorado Plateau Ecosystem Partnership, in early March in Moab, Utah. Participants discussed regional commonalities, landscape changes, and the future of the Colorado Plateau.

The partnership continues to seek collaborators in the expanding effort to find broad solutions to what may seem like local problems. But as scientists have been saying since at least the 1930s, we must act locally while thinking globally in our efforts to understand nature's interconnections.

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Yellowstone National Park in cooperation with the Montana Air Quality Bureau and the NPS Air Quality Division recently installed air monitoring equipment at the West Yellowstone park entrance station and in the neighboring town of West Yellowstone. The equipment helped to quantify air pollutant concentrations in these areas. Dispersion modeling using snowmobile exhaust emissions estimates and local weather conditions showed the potential for exceedances of the National Ambient Air Quality Standard (NAAQS) for carbon monoxide (CO) near the park entrance and along park roadways during periods of high snowmobile traffic. The NAAQS for CO is 35 parts per million (ppm) for a 1-hour average or 9 ppm for an 8-hour average.

Air Quality Division staff installed CO and particulate monitoring equipment in mid-January and ran the tests through February 20 (for CO) and March 7 (for particulates), respectively. Data collected east of the park entrance showed air quality concentrations well below national standards for both CO and particulate matter. The maximum 1-hour CO concentrations through that period were less than 10 ppm. However, the worst case conditions (high snowmobile traffic with stable weather conditions) were not observed during the study period. Certainly, the potential for high carbon monoxide concentrations does exist near the entrance and along park roadways during high traffic periods (more than 300 snowmobiles per hour).

Most of the pollution measured at the west entrance station is directly attributed to snowmobile

activity. Concentrations were highest in the mornings between 8 A.M. and noon when snowmobiles entered the park and in the late afternoon between 4-6 P.M. when snowmobiles returned to town. During other times, air pollutant concentrations were very low.

Although the measurements were legally acceptable, the park took actions this winter to reduce air pollution from snowmobile emissions. For example, the park opened an express lane at the west entrance during peak visitation periods. Staff also requested snowmobile operators to turn off their engines to reduce exhaust emissions while idling near the Madison Junction warming hut. Finally, the park encouraged operators to keep their snowmobiles in proper working order to minimize pollution. The park also sold entrance passes in advance to tour groups to minimize delays and to reduce emissions near the entrance station.